

Translation

PATENT COOPERATION TREATY

PCT/DE2003/003654



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference K-255 PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/003654	International filing date (day/month/year) 04 November 2003 (04.11.2003)	Priority date (day/month/year) 18 December 2002 (18.12.2002)
International Patent Classification (IPC) or national classification and IPC G01N 29/06		
Applicant AGFA NDT GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet. <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u> </u> sheets.
3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 05 May 2004 (05.05.2004)	Date of completion of this report 23 March 2005 (23.03.05)
Name and mailing address of the IPEA/EP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE2003/003654

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages _____ 1-15 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____ 1-12 _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the drawings:
 pages _____ 1/2-2/2 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE 03/03654

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

2. Citations and explanations

1. Cited documents:

This report makes reference to the following documents:

D1: B. GROHS, O.A. BARBIAN, W. KAPPES, H. PAUL, R. LICHT, F.W. HÖH: "Characterization of flaw location, shape, and dimensions with the ALOK system" MATERIALS EVALUATION, vol. 40, January 1982 (1982-01), XP0009030157

D2: V. DEUTSCH, M. PLATTE, M. VOGT: "3.4.3.6 Rechnergestützte Fehlerbeschreibung" ULTRASCHALLPRÜFUNG, 1997, PAGES 133-141, XP002278716, SPRINGER VERLAG BERLIN HEIDELBERG

2. Inventive step (PCT Article 33(3))

Claim 1:

Claim 1 does not appear to meet the requirements of PCT Article 33(3) for inventive step. The reasons are:

D1 discloses a process for representing echo signals

obtained using an ultrasonic testing apparatus for non-destructive testing of a body to be tested (D1, abstract), wherein the ultrasonic testing apparatus has:

- a probe (D1, figure 2), in particular an angular probe;
- a transmitter, which is connected to the probe and generates initial pulses that are sent to the probe (D1, page 85, left-hand column, last paragraph to right-hand column, first paragraph);
- a receiver, which is connected to the probe and receives the echo signals (D1, page 85, left-hand column, last paragraph to right-hand column, first paragraph), and
- a monitor with a display (D1, figure 2), which is connected to the receiver in order to represent the received echo signals in a cross sectional image such that at least a front face and a rear wall of the tested body can be recognized (D1, figures 7 and 11), with the process steps:
 - the angular probe is placed on the front face and ultrasonic pulses are transmitted into the tested body at a predetermined angle (D1, page 85, left-hand column, last paragraph to right-hand column, first paragraph);
 - a flaw is detected and represented by a first arrangement of the probe, wherein the extension of the flaw in relation to the first arrangement of the probe is determined using a body comparison method (D1, page 86, right-hand column) and represented to scale as a first flaw signal in a first photogrammetric image on the display (D1, figure 3 and page 85, right-hand column, last paragraph to page 86, left-hand

column, first paragraph);

- the photogrammetric image generated is stored (D1, figures 7 and 11);
- the same flaw is detected and represented by a second arrangement of the probe, wherein the extension of the flaw in relation to the second arrangement of the probe is determined using a body comparison method (D1, page 86, right-hand column) and represented to scale as a second flaw signal in a second photogrammetric image on the display (D1, figure 2, "probe position" 2);
- the second photogrammetric image generated is stored (D1, figures 7 and 11);
- at the same time the first and second photogrammetric images are overlaid and represented in an evaluation image (D1, figures 7 and 11).

Thus, claim 1 differs from D1 in that the first and second flaw signals are recognizable in the representation.

D1 (figures 7 and 11) shows flaw reconstruction from multiple flaw signals. Thus, D1 solves the technical problem of transmitting flaw orientation data to the operator of the testing apparatus. A person skilled in the art would therefore consider the distinguishability of the first and second flaw signals shown claimed in claim 1 to be an optional feature which, *per se*, does not substantiate inventive step.

The same objections concerning lack of inventive step in claim 1 may apparently also be raised on the

basis of D2.

For these reasons claim 1 appears not to involve an inventive step.

Dependent claims:

Dependent claims 2-12 do not appear to contain any features which, in combination with claim 1, to which they refer back, meet the PCT requirements for inventive step. These claims describe features which are either known from D1 or D2 or obvious ("C-scan" horizontal projection, determination of probe position).

3. Clarity (PCT Article 6)

It is unclear whether an **angular** probe is claimed in claim 1 as an optional or as a necessary feature (claim 1, lines 4 and 14).

4. Various

Pursuant to PCT Rule 5.1(a)(ii), the description should indicate the relevant prior art disclosed in D1 and D2.

Pursuant to PCT Rule 6.3(b), the independent claim should have been drafted in the two-part form.